

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Bozio et al.  
Title: TRIM PANEL  
Appl. No.: 10/569,225  
International Filing Date: 08/25/2004  
371(c) Date: 02/23/2006  
Examiner: Abraham, Amjad A.  
Art Unit: 1791  
Confirmation No. 9411

**DECLARATION UNDER 37 C.F.R. § 1.131**

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

Sir:

I, Ronald A. Bozio, state and declare that:

1. I, along with Bart W. Fox, Daniel F. White, Michael J. Von Holtz, Jeffrey A. Cussimano and Delwyn Kragt, am an inventor of Claims 38-62 currently pending in U.S. Patent Application No. 10/569,225 (hereinafter "the '225 application").
2. The '225 application claims the benefit of priority available under 35 U.S.C. § 119(e) to U.S. Provisional Patent Application No. 60/497,629 filed on August 25, 2003 (hereinafter "the '629 application").

3. I understand that in an Office Action dated December 19, 2008, Claims 38-62 of the '225 application were rejected as being unpatentable based at least in part on U.S. Patent No. 7,060,215 to Schoemann et al. (hereinafter "Schoemann et al.").
4. I understand based on the information provided on the front page of Schoemann et al. that Schoemann et al. was filed in the United States on March 19, 2003 as a continuation-in-part of U.S. Patent Application No. 10/207,333 filed on July 29, 2002 ("the '333 application").
5. I have been informed by our patent attorney Adam M. Gustafson that the subject matter that the Examiner has attempted to rely on Schoemann et al. for allegedly teaching in the Office Action dated December 19, 2008 does not appear to be disclosed in the '333 application.
6. I have also been informed by Adam M. Gustafson that Schoemann et al. has a prior art "effective date" of March 19, 2003 for the subject matter that the Examiner has attempted to rely on in the Office Action dated December 19, 2008.
7. Prior to March 19, 2003, we conceived in the United States at least the ideas set forth in independent Claims 38, 44 and 61 of the '225 application. Such conception is evidenced by the two sheets of drawings signed by me and dated November 20, 2001 and February 14, 2003 respectively (Exhibit A attached hereto).
8. Prior to March 19, 2003 and extending through the August 25, 2003 filing date of the '629 application, I, along with the other inventors and our patent attorney Scott D. Anderson, were reasonably diligent in the constructive reduction to practice the ideas set forth in Claims 38-62 of the '225 application as evidenced by the drawing sheet dated February 14, 2003, an invention disclosure form dated April 23, 2003 that has been redacted to cover attorney notes (Exhibit B attached hereto), acknowledgement by our patent attorney Scott D. Anderson that instructions were received to prepare a provisional

patent application on July 1, 2003 (Exhibit C attached hereto) and an email from our patent attorney Scott D. Anderson dated August 22, 2003 that included a first draft of the provisional patent application (Exhibit D attached hereto).

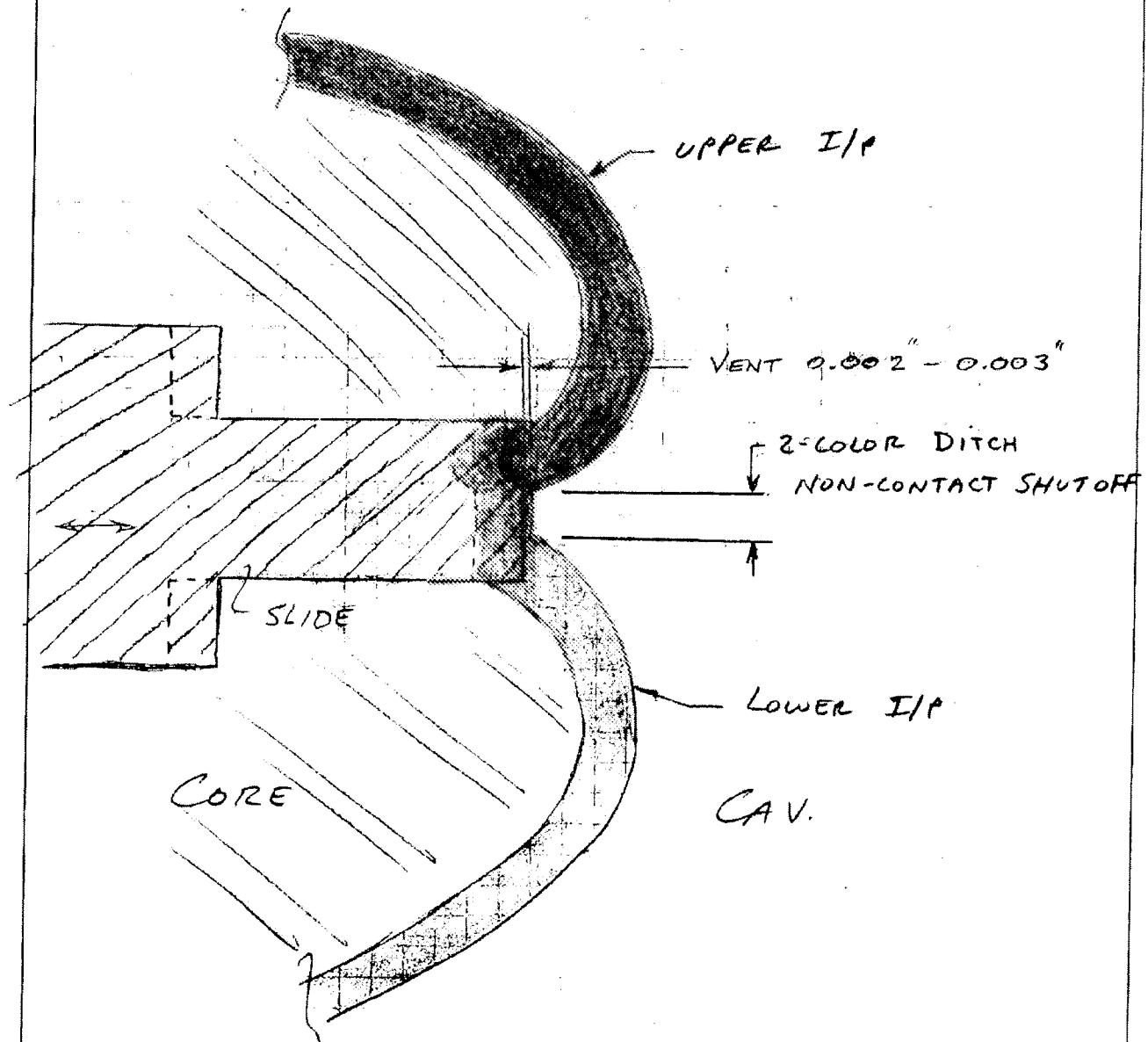
9. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent application or any patent issuing therefrom.

Date: JUNE 18, 2009

By: Ronald A. Bozio  
Ronald A. Bozio

# EXHIBIT A

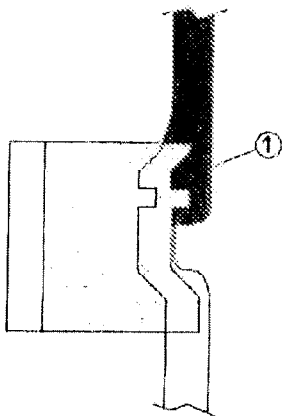
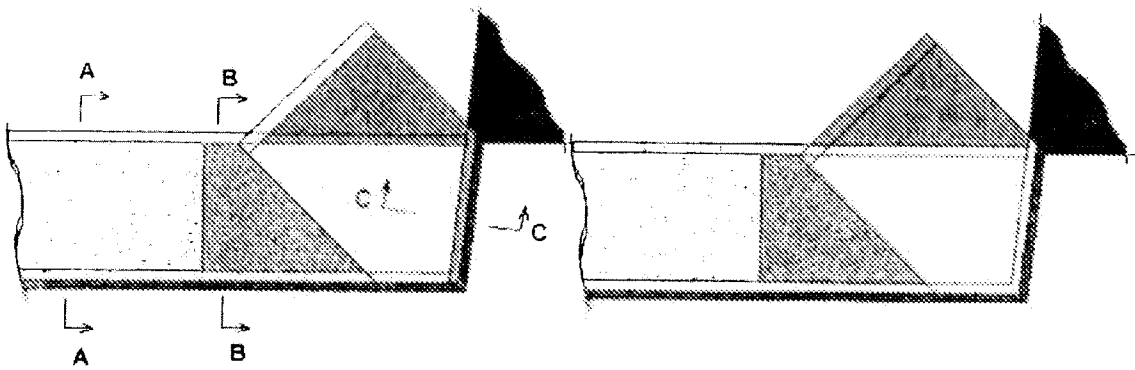
## TWO SHOT INJECTION MOLDING CONCEPT FOR 2-COLOR I/P



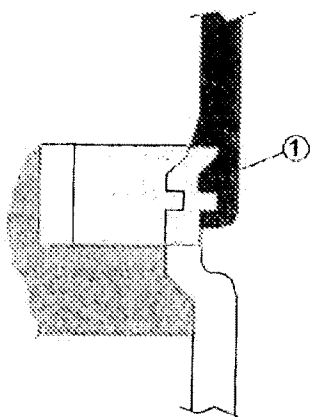
- ① INJECT UPPER I/P
- ② PULL BACK SLIDE
- ③ INJECT LOWER I/P

R. BOZIO  
11/20/01

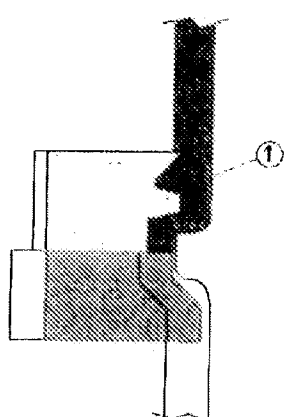
2-color hard IP tool concept  
R. Bozio - JCI 2/14/03



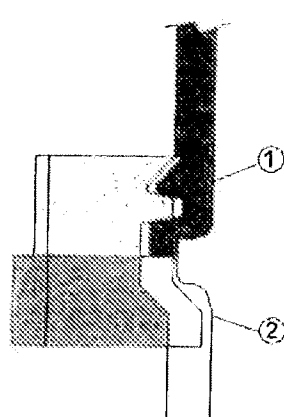
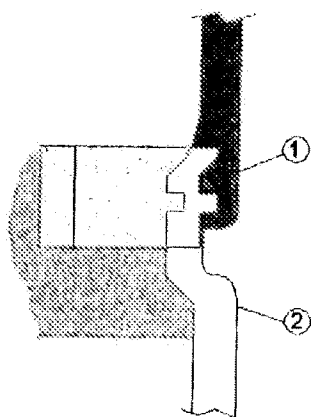
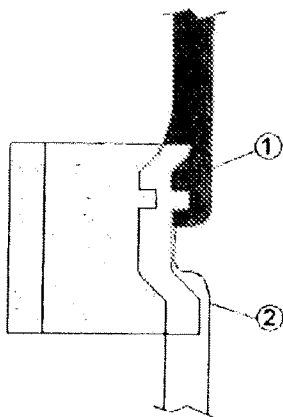
Section A-A



Section B-B



Section C-C



## PROPRIETARY ASG INNOVATION DISCLOSURE

Page 1 of 17

Johnson Controls Division/Subsidiary ASG - Interiors

For Office Use Only

Location Holland, Michigan USA

Disclosure No.

Received

Disclosure Title Multi-color or multi-material trim panel

1-33-67

Apr. 23-03

Innovator's Full Name

Work Phone #

Citizenship

Dept. #

Ronald BozioUSABart FoxUSADaniel F WhiteUSAMichael VonHoltzUSAJeff CussimanoUSADelwin KragtUSA

Briefly describe the innovation on the lines provided. Additional, detailed description will be required on page 2. A multi-color / multi-material, one-piece plastic trim panel

## Innovation Benefits

Does this innovation:

1. Potentially improve our products:

a. Safety?

☐ Yes ☒ No

c. Weight reduction?

☒ Yes ☐ No

e. Production/warranty cost reduction?

☒ Yes ☐ No

b. Durability/Reliability?

☒ Yes ☐ No

d. Fit &amp; finish or buzz/squeak/rattle?

☒ Yes ☐ No2. Reduce equipment required for or complexity in manufacturing of our products? ☒ Yes ☐ No3. Address a consumer (end user) need/want like comfort, convenience, "surprise and delight" feature, etc.? ☒ Yes ☐ NoIf yes, please describe: Improved Craftsmanship4. Address a customer (O.E.M., distributor) need/want such as manufacturing, marketing, cost, etc.? ☒ Yes ☐ NoIf yes, please describe: Improved Craftsmanship, fit & finish, and reduced piece cost

## Innovation Creation

To the best of my knowledge:

1. Date the innovation was first conceived 11/20/012. Names to whom invention was first disclosed Jeff IrvinCreated date? 11/21/01

3. Has the innovation been sold or offered for sale?

4. Has a working prototype been constructed?

5. Has a working prototype been shown to a potential customer?

6. Has the innovation been disclosed to non-JCI employees?

7. Is it planned to disclose the innovation to non-JCI employees?

8. Is it planned to commercially market the innovation?

9. Was non-JCI funding (government, customer, etc.) involved?

10. Please identify any patents, publicly available documents, competitive products, or other information which relates to the subject matter of this innovation that you are aware of (attach if available) Bozio disclosure (FY02195) Patent search on Bozio disclosure

The undersigned hereby confirms that all inventions, information and related industrial property rights developed by me individually or jointly during experimental, development, or research activities on behalf of Johnson Controls, Inc. (JCI), including without limitation, those embodied in the foregoing disclosure, shall be owned by JCI. All improvements related to the disclosure shall forthwith and without further consideration become and be the property of JCI, its successors and assigns.

Signatures: Please type in the innovator and witness names and date the entries.

Innovator(s):

Date:

Witnesses (must be two):

Ronal Bozio4/21/03Name Steve HollingsworthBart Fox4/21/03Date explained to me and understood by me 11/21/01

All attachments should be signed, dated, witnessed and scanned into an electronic format.

Please e-mail completed forms and attachments to [Jodi.A.Hemmeke@jci.com](mailto:Jodi.A.Hemmeke@jci.com).

Daniel F White	4/21/03
Michael VonHoltz	4/21/03
Jeff Cussimano	4/21/03
Delwin Kragt	4/21/03

Name Andy Butz  
Date explained to me and understood by me 4/23/03

Johnson Controls Division/Subsidiary ASG - Interiors

Location Holland, Michigan USA (Tech Campus)

Disclosure Title Multi-color or multi-material trim panel

For Office Use Only

Disclosure No.	Received
2403137	Apr. 23-03

**Fully describe the innovation** (explain the problem to be solved).

#### **Background**

There exists the need for an interior trim panel to be of multiple colors or of multiple materials. Typically a multi-colored trim panel or a trim panel of multiple materials is made of multiple pieces that are joined together into one assembly by methods such as ultrasonically welding, heat staking or mechanical fastening. Another way of producing a multi-colored trim panel is to mask specific regions and paint the desired color. This invention describes a multi-color / multi-material trim panel that is molded as one-piece, does not need secondary joining operations and is not masked and painted. This invention also describes how this one-piece, multi-color / multi-material panel can be aesthetically desirable and create unique styling opportunities that would not normally be executed due to high cost and poor fit and finish outcomes associated with traditional methods.

The advantages for this type of trim panel include the ability to localize and strategically place the use of more premium materials that yield soft touch, low gloss, impact resistance, UV protection or high heat performance along with the multiple colors. For example, it is desirable to have soft touch or UV resistant additives on only the upper portion of a door panel or IP. Another advantage of this type of trim panel is the improvement of fit and finish because it is one-piece (versus mechanically joined multiple pieces) and produced in the same process.

There are many styling opportunities that can be realized with a multi-shot trim panel when compared to a conventional multiple-piece trim panel. Sketches of these by Brian Dexter are attached. The two-color color boundary can run through an opening or another component. This typically is not done with multiple-pieces because of poor fit and finish due to part and assembly variation. Isolated color break-ups that makes a feature look separate can be realized in the one-piece trim panel such as a different color molded-in speaker grille or map pocket surround. Multi-color pillar trim can be realized to allow flow-through from the interior's front to rear without having to break the trim into multiple pieces. Accents in scuff plates and other trim can be produced in the same piece. Part separation does not have to dictate color break-up location. Specific details and features can be highlighted in a different color.

#### **Innovation**

Utilizing current multi-shot molding techniques (i.e. two-shot molding, spin molding, transfer molding and over molding) a one-piece, multi-color / multi-material trim panel can be produced. The first shot of plastic material is constrained by a retractor mechanism to the desired region on the trim panel. Once that cavity is filled with plastic, the retractor is displaced by approximately the thickness of the part. The second shot (from the secondary injection unit) then fills this cavity and plastic flows to and bonds with the first material boundary. The retractor provides the shut-off for the plastic by contacting the opposite side of the mold. The surface on the retractor that actually contacts the opposite side of the mold can be perpendicular to or at an angle relative to die draw. The perpendicular retractor surface will create a square ditch at the two-shot boundary. A more desirable angled ditch will allow the two-shot boundary to be hidden from the occupant's sight for most in-car positions. This angled shut-off creates an apparent geometric gap that is more desired than a square, mechanical ditch because it can hide the material joint. To improve the strength of the two-shot boundary an interlocking geometry can be created to provide a mechanical lock in addition to the chemical bond that exists. Sketches of this are also included. **Specific novel ideas include the part interlocking geometries and the angled shut-off.**

#### **Explain the solution.**

The shut-off surface on the retractor (either perpendicular to or at an angle to die draw) can withstand molding pressures and prevent injected plastic from flowing into other areas of the tool. A sketch of the molding sequence is attached with this disclosure. Sample cross sections of square and angled two-shot boundary ditches that could be applied to a trim panel are also attached.



**Signatures:** Please type in the Innovator and witness names and date the entries.

Innovators(s):

Ronald Bozio

Bart Bos

Daniel F White

Michael VonHoltz

Jeff Cussimano

Delwin Kragt

Date:

4/21/03

4/21/03

4/21/03

4/21/03

4/21/03

4/21/03

Witnesses (must be two):

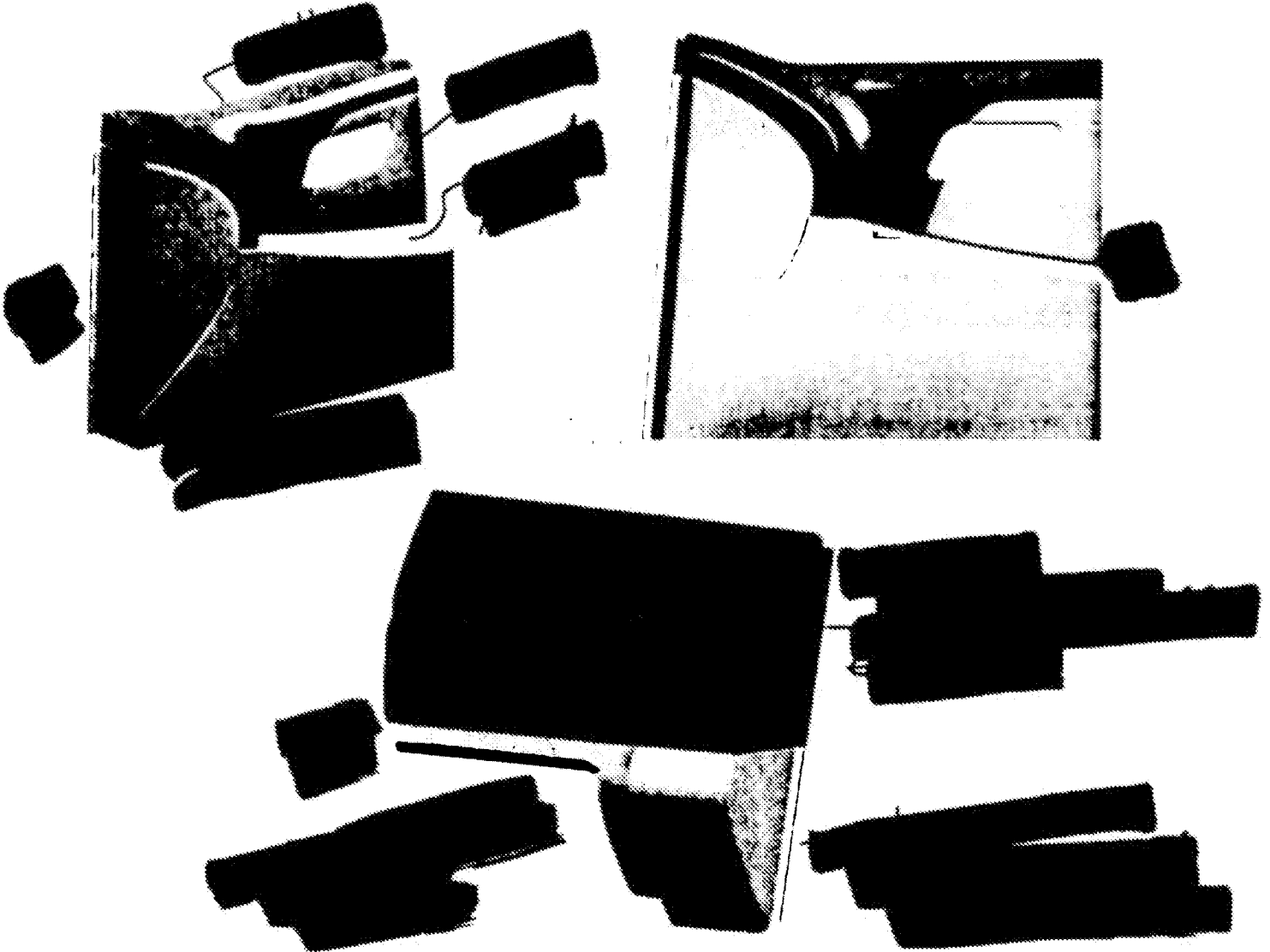
Name Steve Hollingsworth

Date explained to me and understood by me 11/21/03

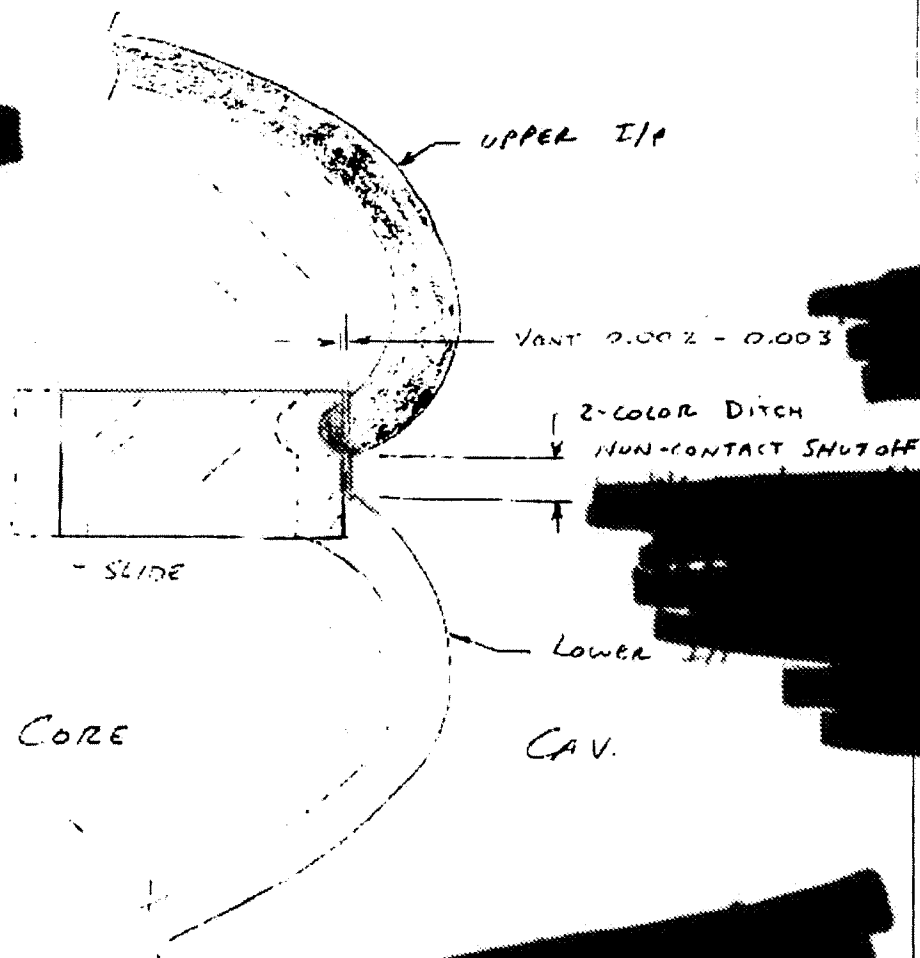
Name Andy Butz

Date explained to me and understood by me 4/23/03

Some visual description must be included along with the written description. Attachments that visually describe the innovation may include, but are not limited to, the following: sketches, schematics, diagrams, CAD screen dumps, photos of models, presentations, or spreadsheets. Please scan, **save as a jpg**, and attach (cut & paste) or insert these items on the following pages.



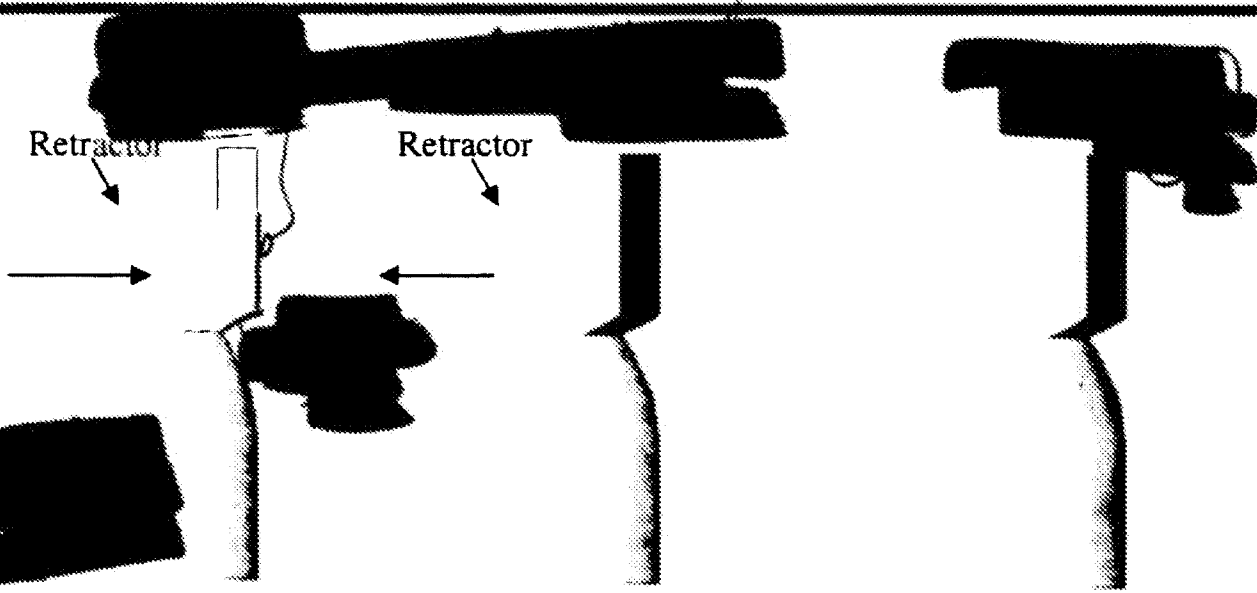
Examples of two-color trim panels that utilize these shut-off methods.

TWO SHOT INJECTION MULDING CONCEPT  
FOR 2-COLOR I/P

- ① INJECT UPPER I/P
- ② PULL BACK SLIDE
- ③ INJECT LOWER I/P

R. BOZIO  
11/20/01

Ron Bozio's Original Concept Sketch - 11/20/2001



### First Shot

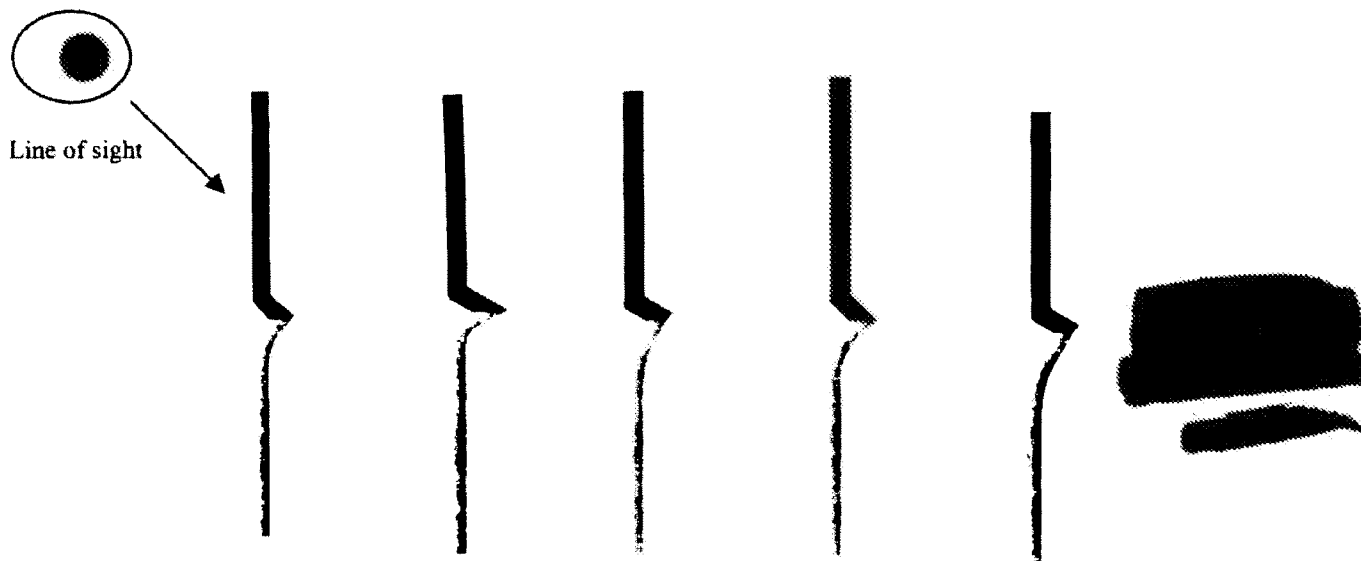
Retractor closes-off on the cavity half of the mold to prevent first shot from entering into upper portion of tool

### Second Shot

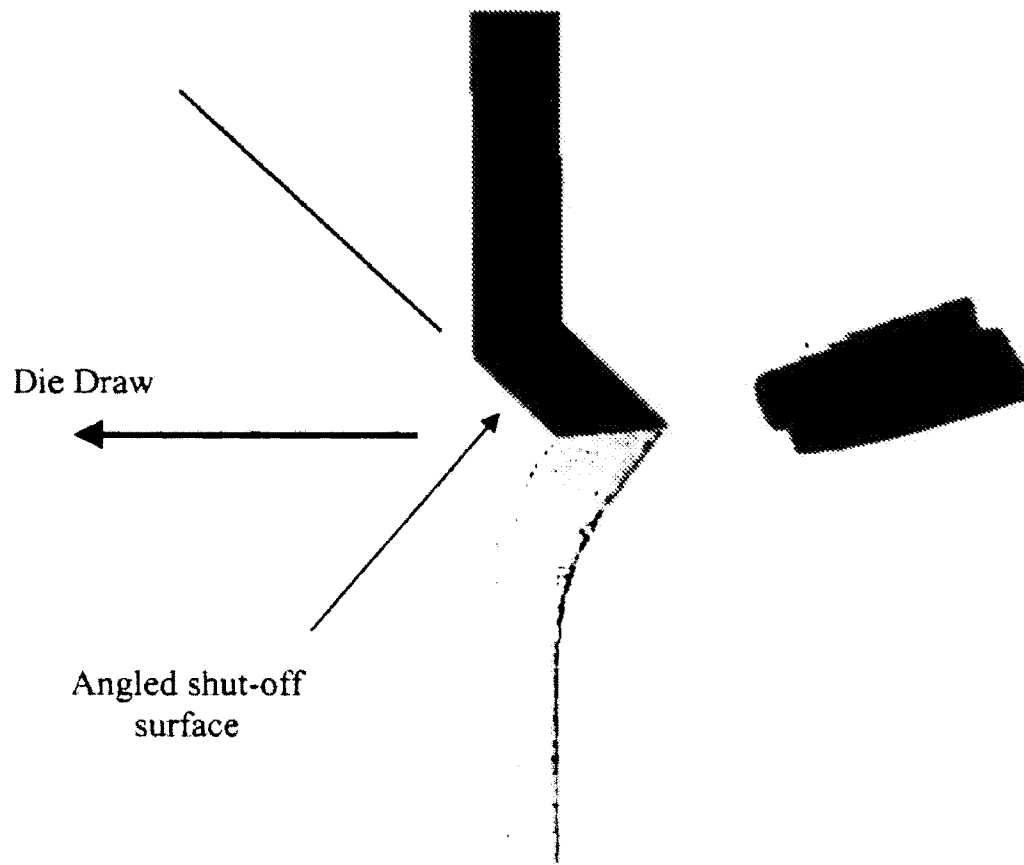
Retractor is pulled back wall stock thickness to open the upper portion of the tool. The second shot is injected and the stops flowing when it reaches the first material

### Finished Part

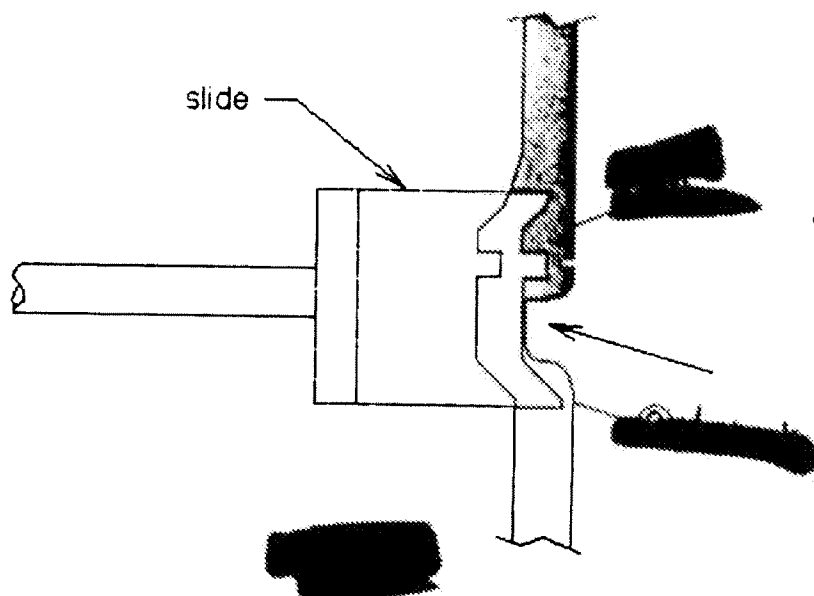
## Molding Sequence



Examples of angled shut-off geometries. These allow the color intersection to be hidden from view

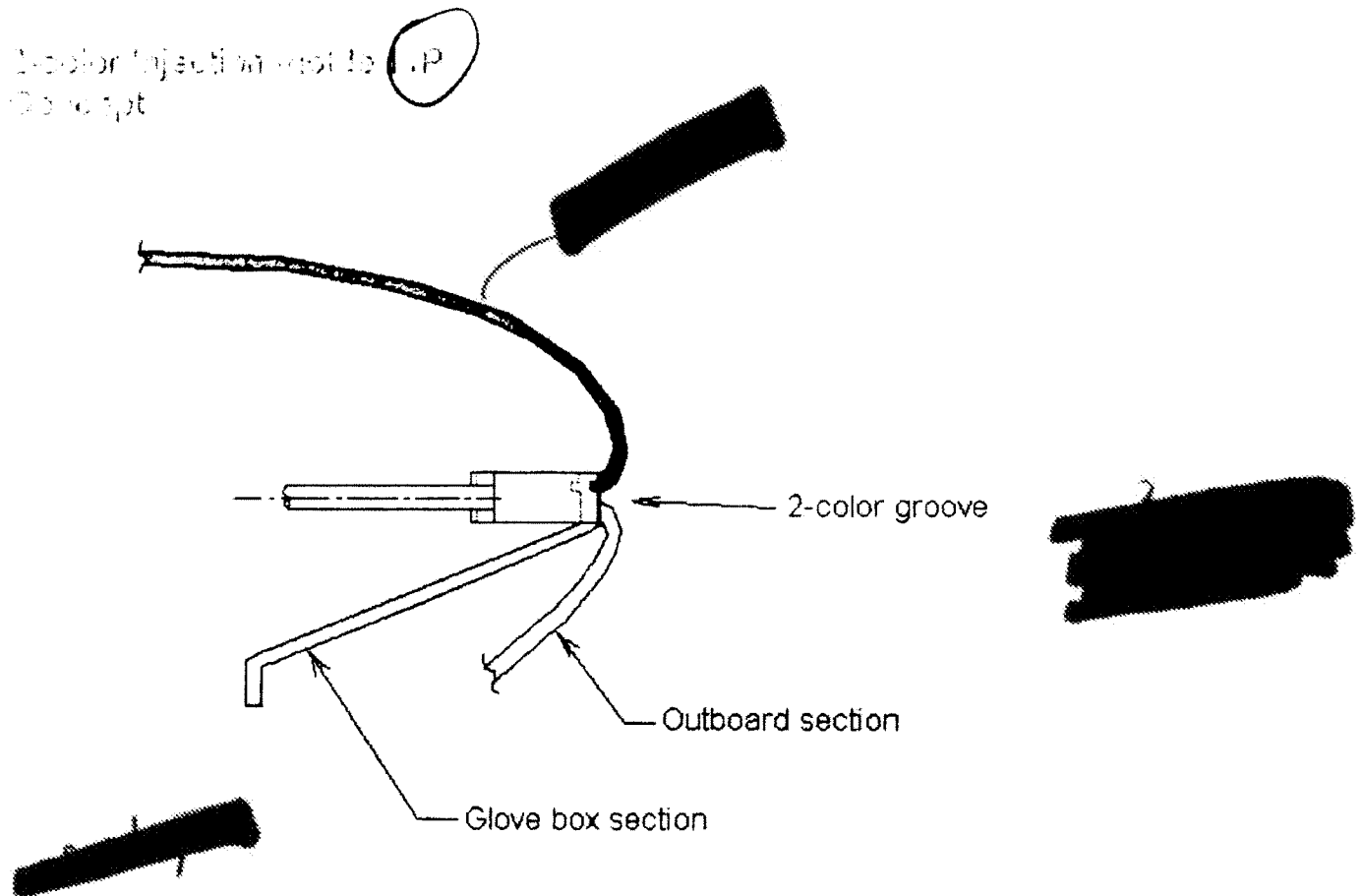


2 color injection molded joint  
concept



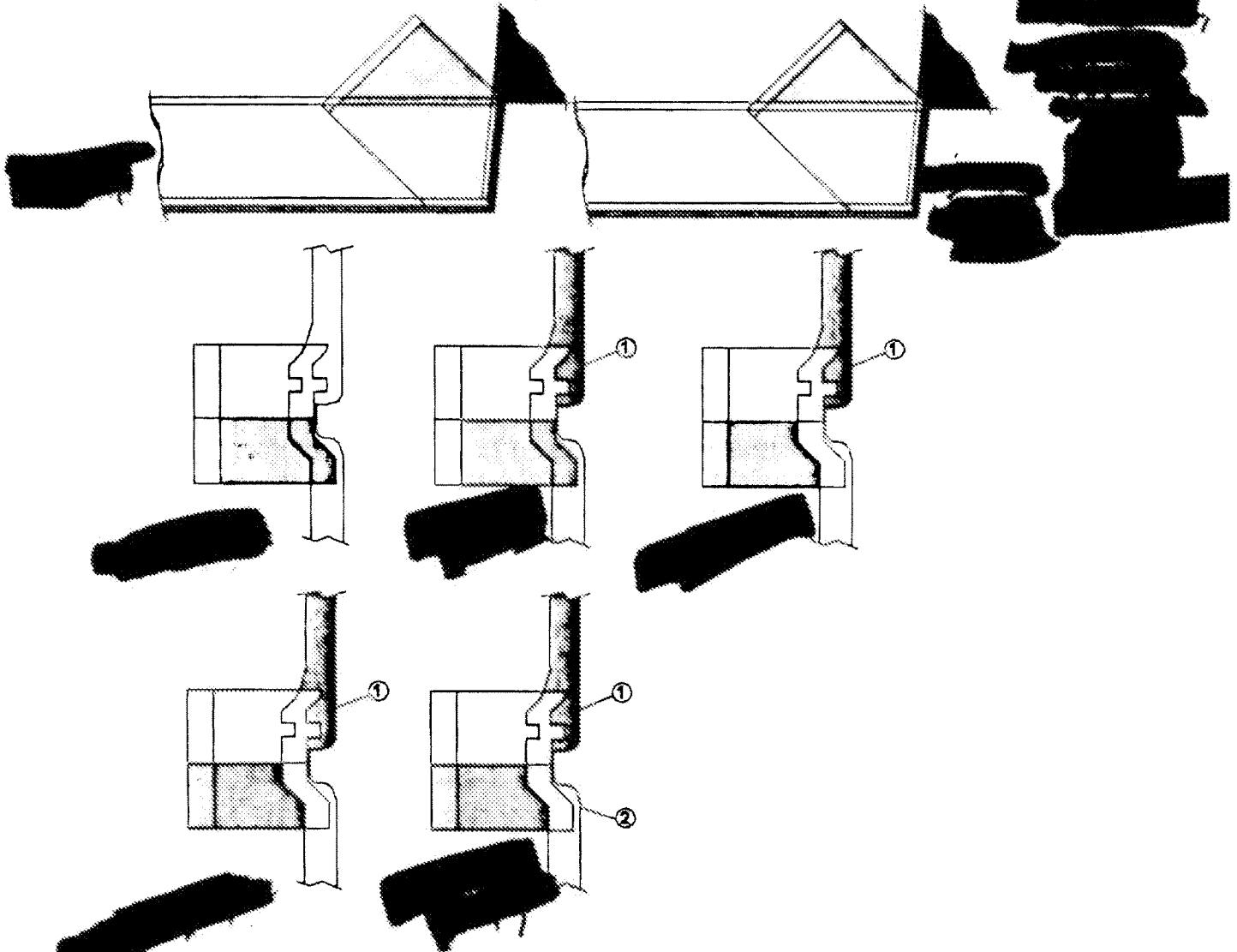
R. Bozio - JCI  
1/23/03

Mechanical Interlock concept



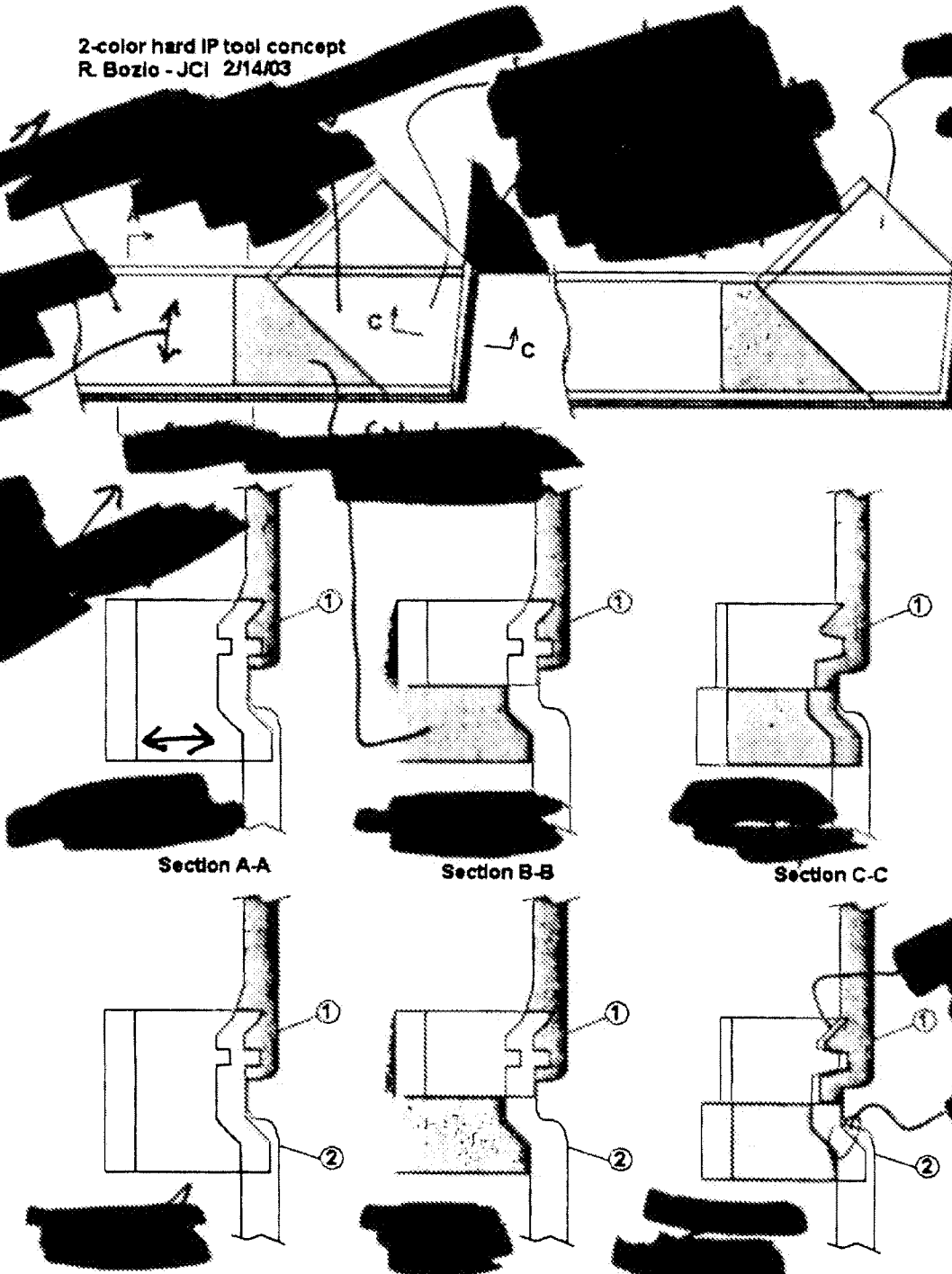
R. Bozio -JCI  
1/21/03

Square Ditch Concept for IP



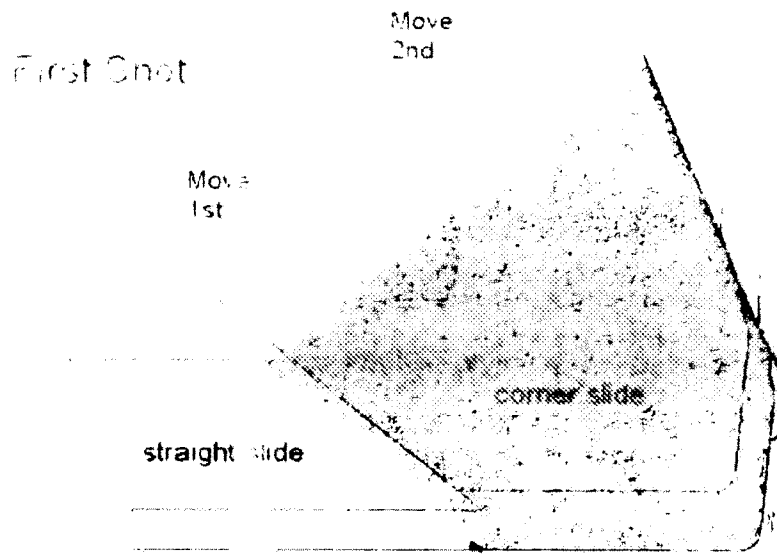
Retractor concept for allowing vertical walls  
(parallel to die draw) to be full material  
thickness

2-color hard IP tool concept  
R. Bozio - JCI 2/14/03



Retractor concept for allowing vertical walls (parallel  
to die draw) to be full material thickness

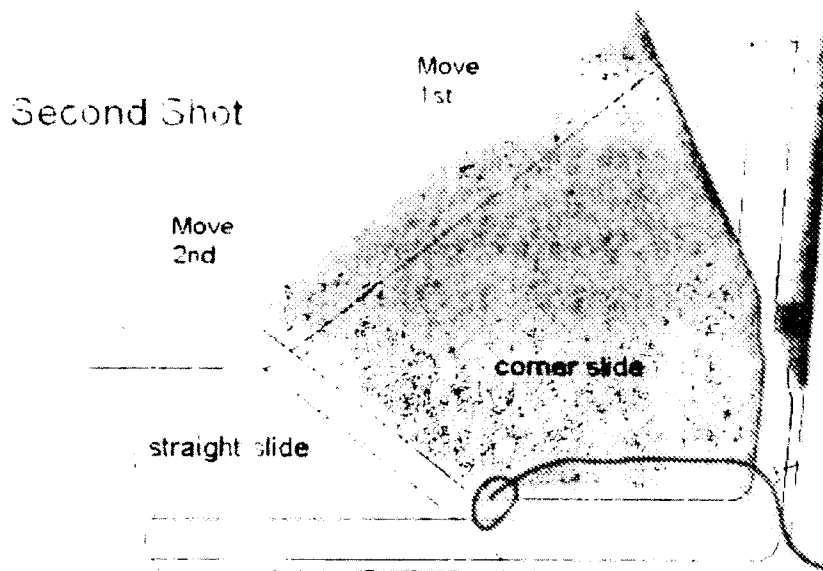




Bottom  
of Ditch

Color 1  
(upper)

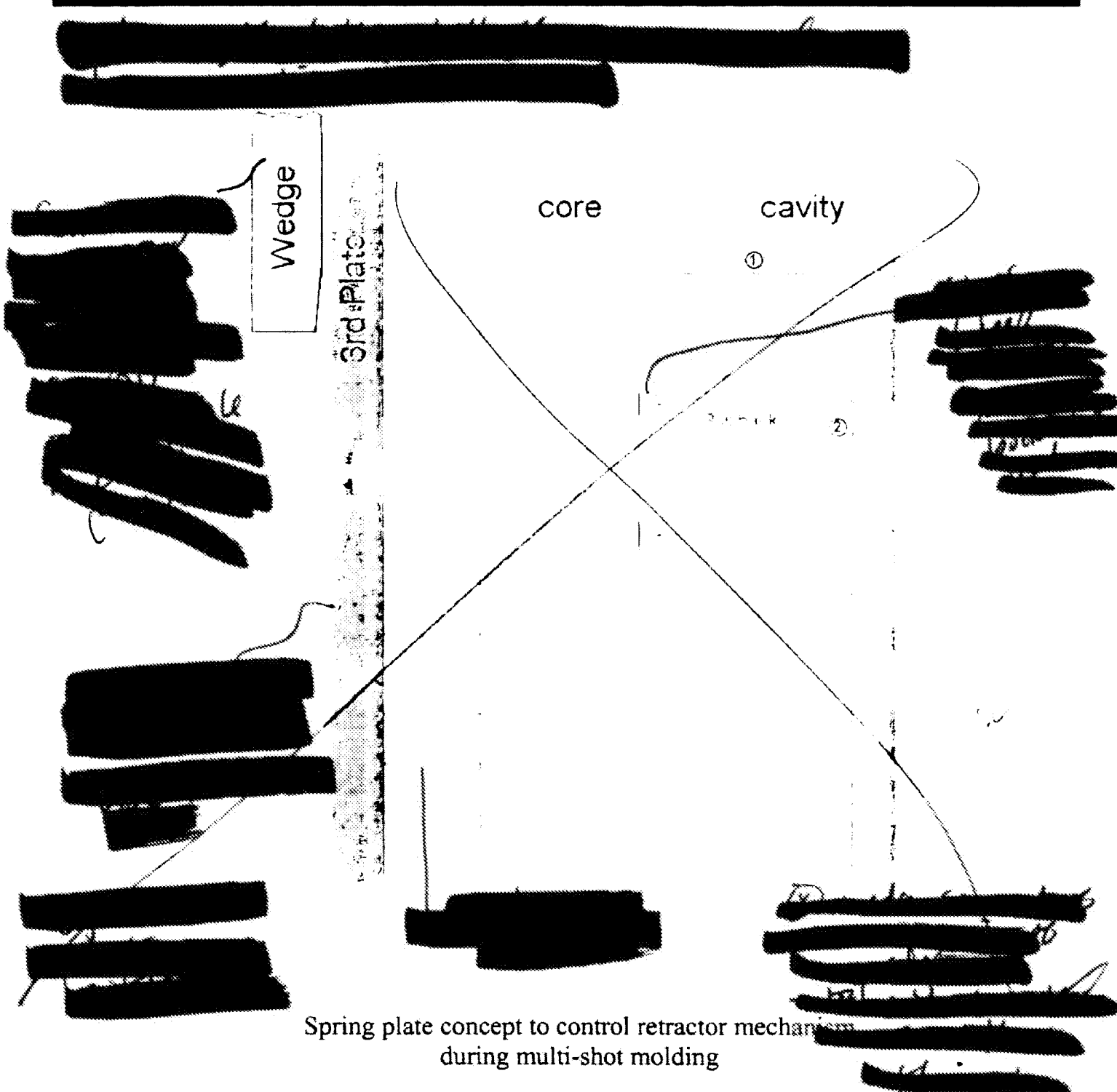
28 28



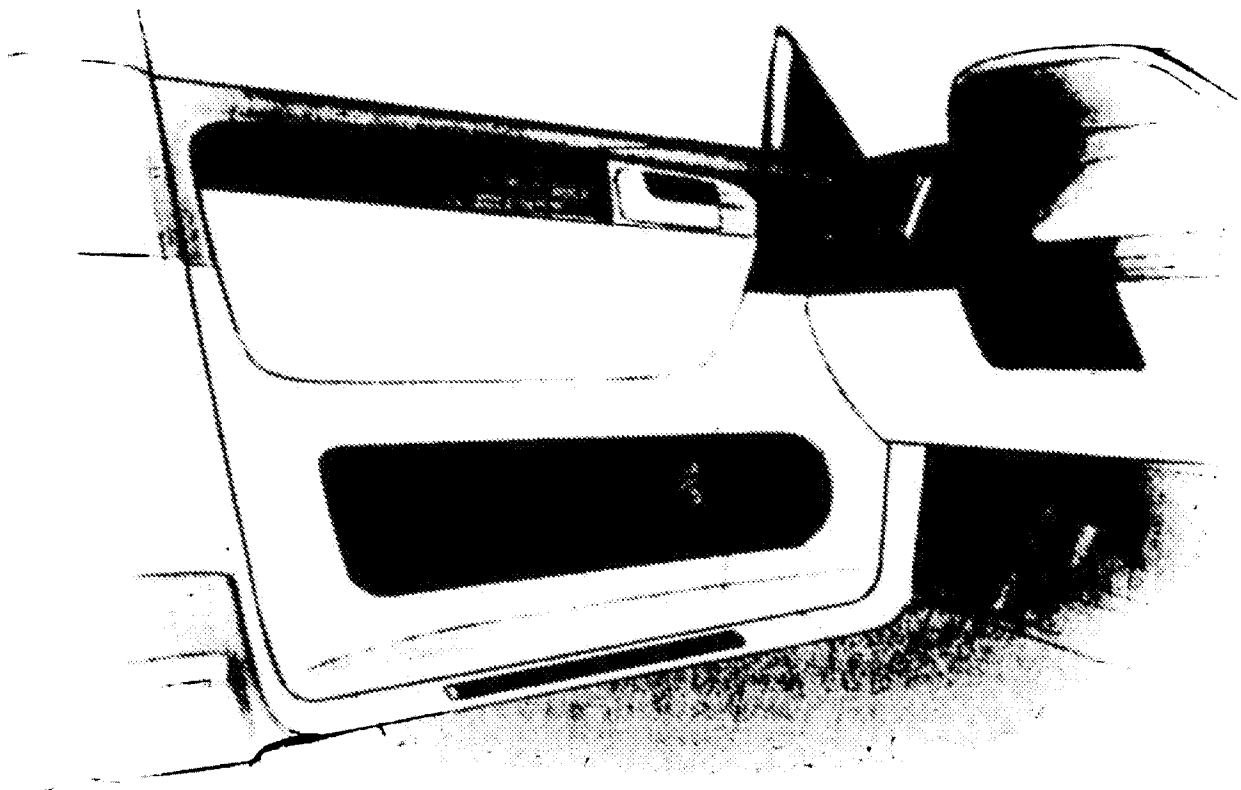
End Cover  
(Ref)

Color 2  
(lower)

Retractor concept for allowing vertical walls (parallel  
to die draw) to be full material thickness



In-Mold Two-Tone hard plastic Door/IP



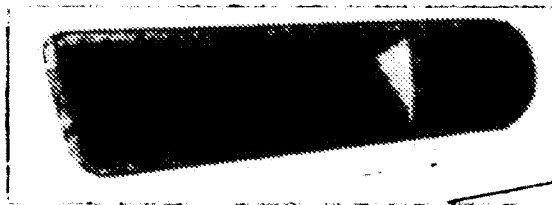
Brian Dexter 2.24.03 JCI Design

Styling Opportunities



**In-Mold Two-Tone hard plastic Door/IP**

Several colors in one part like two-tone door look and separately-colored sail panels. Separate parts like soft-skinned area can bridge two colors without fit issues.



Isolated color break-ups. Molded-in speaker griller made to look separate, and map pocket surround. This would never be done with paint-masking techniques.

Brian Dexter 2.24.03 JCI Design

Styling Opportunities



### In-Mold Two-Tone hard plastic Door/IP

Multi-color pillar trim could allow two-tone 'flow-through' from front to rear, and hide 'ugly' areas like seatbelt retractor packaging.

Lower cowl trim could be two-tone to visually clean-up trim to door,

Scuff plate accents molded-in

Brian Dexter 2.24.03 JCI Design

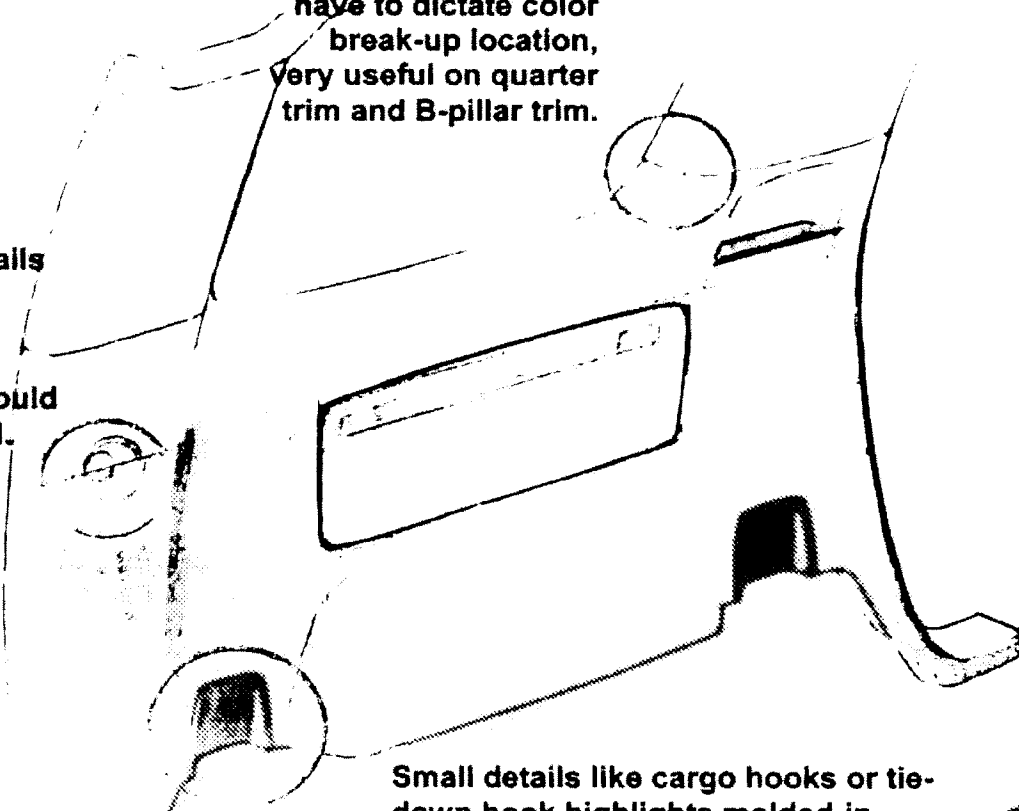
Styling Opportunities



**In-Mold Two-Tone hard plastic Door/IP**

Part separation  
requirements don't  
have to dictate color  
break-up location,  
very useful on quarter  
trim and B-pillar trim.

Smaller details  
that would  
create fit or  
masking  
problems could  
be achieved.



Small details like cargo hooks or tie-  
down hook highlights molded-in.

Brian Dexter 2.24.03 JCI Design

Styling Opportunities

# EXHIBIT C

**Anderson, Scott D.**

---

**From:** Escavaille, Christine A.  
**Sent:** Tuesday, July 08, 2003 2:54 PM  
**To:** Anderson, Scott D.  
**Cc:** Cooper III, John C.; Hopkins, Beverly P.  
**Subject:** RE: New JCI matter

Your number is

26032/4408

*Chris Escavaille*  
Foley & Lardner  
(414) 297-5274  
cescavaille@foleylaw.com

-----Original Message-----

**From:** Anderson, Scott D.  
**Sent:** Tuesday, July 01, 2003 2:25 PM  
**To:** Escavaille, Christine A.  
**Cc:** Cooper III, John C.; Hopkins, Beverly P.  
**Subject:** New JCI matter

Chris, we had the Doors TPT meeting today. [REDACTED]

[REDACTED]  
Please open a new patent application matter for Doors FY03187 titled MULTI-COLOR OR MULTI-MATERIAL TRIM PANEL

[REDACTED]  
Best regards,  
Scott D. Anderson  
Foley & Lardner  
777 E. Wisconsin Ave.  
Milwaukee, WI 53202-5306  
(414) 297-5740 (direct)  
(414) 297-4900 (fax)  
SAnderson@foleylaw.com (e-mail)

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EXHIBIT D

08/22/03 03:04 PM To: Ronald.A.Bozio@jci.com, Bart.W.Fox@jci.com,  
Daniel.F.White@jci.com, Michael.J.VonHoltz@jci.com,  
Jeffrey.A.Cussimano@jci.com, Delwyn.Kragt@jci.com  
cc: Cynthia.L.Price@jci.com,  
Michelle.A.Page@jci.com, BHopkins@foleylaw.com  
Subject: RE: Multi-color or Multi-material Trim Panel  
(FY03187)

Attached is the first draft. Please review at your earliest convenience and let me know if you have any comments by the end of the day.

[REDACTED]